Development of Numeracy Literacy Modules In The Independent Curriculum For VI Grade Elementary Schools

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Abstract. This study aims to develop a numeracy literacy module in the independent curriculum that is valid and practical, and can be used in teaching mathematics for grade VI elementary school. This development research uses the ADDIE method (Analysis, Design, Development, Implementation, Evaluation). The tryout was carried out twice, a small group tryout with 5 students as a subject and a class VI teacher at Bulusidokare State Elementary School and a large group tryout with 16 class VI students at Bulusidokare State Elementary School as a subject. Data collection used material expert validation sheets, media expert validation sheets, teacher response questionnaires and student response questionnaires. The data obtained were analyzed quantitatively and qualitatively. The score on the expert validation sheet and anchor response determines the level of validity and practicality of the module. Then suggestions and comments on the expert validation sheet and response questionnaire become a reference in improving the module. The results showed that the validator's assessment obtained very valid criteria by material experts at 92.3% and also very valid by media experts at 91.67%. From the results of the practicality test, the teacher's response was 100% in the very practical category, and student responses were 98% (in the small group trial) and 98.75% (in the large group trial). Based on these results the numeracy literacy module meets feasibility and practicality and can be used for learning mathematics in class VI Elementary School students.

Keywords: module, literacy numeracy, independent curriculum, elementary school

1 Introduction

Modules are learning tools used by students in learning a material independently. Modules are included in printed teaching materials that are arranged according to the material of a lesson. The module must be in accordance with the needs of students, so that students can easily use the module. Modules must also be in accordance with the learning objectives to be achieved. Modules need to be developed in order to assist students in learning independently. Students can learn by using the module independently without being accompanied by a teacher or other people. Module development is carried out as a form of effort to create interactive learning where students are given ease of learning and easy access to learning mathematical materials. [1].

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Mathematics learning in the independent curriculum in elementary schools currently lacks a supporting module. However, to meet the need for the module, it is necessary to develop a module on learning math. [2]. The development carried out not only makes the module but also the module must be feasible to be applied in elementary schools. The modules that are present in the independent curriculum must be in accordance with the learning competencies achieved by students. Learning competencies in the independent curriculum refer to learning outcomes. Thus, the mathematics module in the independent curriculum can be in accordance with the objectives designed in this curriculum. Module development can assist students in learning independence in the current independent curriculum. [3].

The current independent curriculum focuses on the characteristics of each student, thoroughly covering literacy and numeracy skills, and character in building the Pancasila learner profile. [4]. The independent curriculum is designed in an effort to catch up with literacy and numeracy. Numeracy literacy must be integrated in the independent curriculum, such as the insertion of numeracy literacy materials. Literacy and numeracy are the main assets in facing challenges in the 21st century as citizens in the era of globalization. [5]. In the era of globalization, literacy and numeracy become the benchmark for all competencies. All people must have numeracy literacy skills in order to compete with other nations in creating prosperity. The numeracy literacy possessed by each community determines the progress of the nation.

Numeracy literacy is a problem-solving skill that learners improve through understanding information in the form of lines, numbers, symbols, graphs, tables that are related to real life. [6]. Numeracy literacy cannot be separated from everyday life and is very important because this ability can be a solution in solving everyday life problems related to numbers and mathematical symbols [7]. [7]. Numerical literacy is considered as the ability to reason [8]. [8]. A person who is able to reason has indirectly understood and analyzed a statement in the form of mathematical symbols which can then be expressed in writing or unwritten. Numeracy literacy skills are needed in various aspects of life, and in various places both at home, at school, in the community and at work. Numeracy and literacy skills are needed in the health sector, such as the ability to read drug labels for patients. [9]. Literacy and numeracy are important life skills as an active contributing member of society. [10]. Based on this, all groups including students need numeracy literacy skills in living life.

Numeracy literacy learning can be implemented at all levels of education, in formal education, one of which is in elementary school. [11]. Numeracy literacy learning in primary schools is applied to all grades from grade 1 to grade 6. Numeracy literacy is closely related to daily life and can be integrated in various learning in primary schools. Numeracy literacy skills need to be instilled in students. Numeracy literacy helps students in solving problems related to mathematics, so that students are able to think critically in understanding something. [12]. Numeracy literacy cannot be separated from students' daily lives, because wherever and whenever they are, students must have encountered a problem related to numeracy.

Based on the PISA (Programme for International Students Assessment) score in 2018, Indonesia has a low average score that is far from the OECD (Organization for Economic Cooperation and Development) average set. Indonesia's achievement in literacy skills has an average score of 371 which is categorized as low from the OECD average of 487 and Indonesia's math skills with an average of 379 which is categorized as low from the OECD average of 489. [13]. Based on these data, students in Indonesia in numeracy literacy skills are low. Low literacy and mathematics scores must be overcome by improving the mathematics learning process in schools [14]. [14]. Improving the learning process can be done by using numeracy literacy textbooks for students.

The results of interviews conducted on October 22, 2022, with 2 students out of 21 students in class VI-A of SD Negeri Bulusidokare, stated that students had difficulty in understanding the mathematics material contained in the mathematics print book. According to him, the material in the printed book seemed so long and difficult to understand, making it difficult for students to work on numeracy literacy problems. In addition, based on research conducted by Mabruroh in 2020, that students have difficulty understanding mathematics, one of which is due to difficulties in understanding the language in textbooks so that it is difficult to understand the contents. [15]. Based on this, students need a textbook in the form of a module that is in accordance with what students need.

The learning module needed at this time, must contain numeracy literacy in increasing the numeracy literacy movement [16]. According to Rakhmawati, teachers and learners need innovative and reflective modules that can help train learners' numeracy literacy. [17]. This is because to support the independent learning curriculum [18]. Before implementing literacy and numeracy learning, teachers prepare well the teaching materials and media used such as modules, storybooks, student worksheets, literacy props and flashcards. [19]. In the independent learning curriculum, there must be a numeracy literacy-based module. According to Dewa Ayu, the implementation of an independent curriculum should be supported by the provision of various learning tools such as material books, learning resources and supporting teaching materials. Supporting teaching materials, for example, teaching modules, goal frameworks and learning designs. [20]. It is necessary to develop a numeracy literacy module to answer the challenges of the current curriculum.

The numeracy literacy module for grade VI elementary school, was developed based on a pre-existing module. The previous module [21] from the Ministry of Education and Culture in 2020 with the title "Learning Module for Literacy and Numeracy at Elementary School Level, 6th Grade Student Learning Module Theme 4 Communication Media Subtheme 3 Communication Media", written by Widjati Hartiningyas and Mimi Nur Hajizah. The module still uses the 2013 curriculum with thematic learning. Broadly speaking, the module contains a series of literacy and numeracy activities separately from various subjects. Thus, there is a need for changes to the module so that it can be used in the independent curriculum. The changes made include, 1) The module is focused on mathematics subjects and 2) The material in the module is adjusted to the phase C learning outcomes in grade VI. This research limits the problem to the development of numeracy literacy modules for grade VI, on geometry elements.

The purpose of this research is to develop a numeracy literacy module that is valid, practical and can be used in learning in grade VI elementary school. Thus, this module is suitable as a companion module in the current curriculum, namely the independent learning curriculum. The developed learning module is expected to help improve numeracy literacy skills in students. The module can help teachers in applying teaching methods independently to students.

The researcher formulated this research question as follows (1) is the numeracy literacy module in the independent curriculum developed valid and practical, and (2) how is the development of a numeracy literacy module in the independent curriculum for grade VI elementary school?

2 Research Methods

Development research or R&D (Research and Development) was used in this module development research. Researchers applied a form of the five-stage ADDIE (Analysis. Design,

Development, Implementation) model in module development. The ADDIE process is the most effective tool in creating products with designs that are generative, responsive, and validating. [22]. This research produces a numeracy literacy module product for grade VI elementary school. The stages of research using ADDIE are described through the chart in Figure 1.

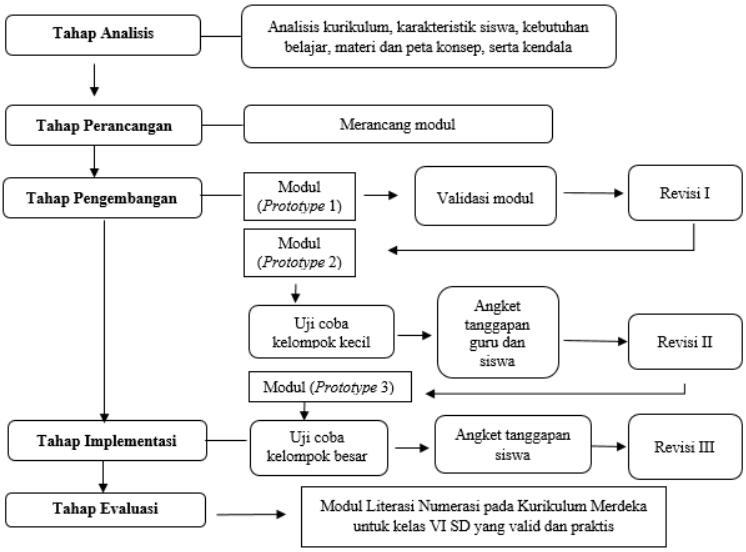

Fig. 1. Chart of research stages

At the analysis stage, various analyses were carried out including curriculum analysis, analysis of student characteristics, analysis of materials and concepts, and analysis of constraints. In curriculum analysis, the curriculum used in this research is the independent curriculum. Thus, making modules refers to learning outcomes. Researchers analyzed student characteristics in terms of how students can understand the language used in accordance with student development. In the analysis of learning needs, students need teaching materials with language that is easy to understand. Students need supporting teaching materials to learn numeracy literacy. Students who do not pay attention to the teacher while learning or students who are behind in learning material at school need to learn independently, so students need a learning module. In the material and concept analysis, the learning outcome elements used are geometry elements with learning outcomes (1) students can construct and decompose spatial shapes (cubes, blocks, and their combinations) and recognize spatial visualization (front, top, and side), (2) they can compare characteristics between flat shapes and between spatial shapes, and (3) they can determine the location on a map that uses a plotted system. In the analysis of constraints, it was found that some grade VI students of SDN Bulusidokare had difficulty in understanding the material in the textbook which used language that was difficult to understand. Based on this, it encouraged researchers to develop a numeracy literacy-based learning module.

In the design stage, researchers designed the module, determined the various equipment needed, and the format of the module content. Researchers used Canva and Microsoft Office

Word applications in making modules. Researchers made a prototype 1 module design as an initial prototype module. The design of the module is based on a pre-existing module, there are changes and additions to the content of the module entitled "Learning Module for Literacy and Numeracy at Elementary School Level, 6th Grade Student Learning Module Theme 4 Communication Media Subtheme 3 Communication Media" to be developed. The module is made according to the curriculum and material designed.

At the development stage, validation of the prototype 1 module was carried out. The prototype 1 module was tested to material expert validators and media experts to determine the validity of the module. Suggestions and input from the validators through the validation instrument became a reference in improving the prototype 1 module and became prototype 2 module. Furthermore, the prototype 2 module was tested on several students as a small group trial. The trial was conducted to determine the practicality of the developed module. The prototype 2 module was tested on 5 students and a teacher of class VI-A SDN Bulusidokare as the subject of the small group trial. After students and teachers tried the module, students and teachers were given a questionnaire response to the use of the module. Suggestions and input from students and teachers will be a reference in improving the prototype 2 module into a prototype 3 module.

At the implementation stage, a large group trial was conducted. The prototype 3 module was tested on a large group of 16 students of class VI-A SDN Bulusidokare. After the module was used, students and teachers were given teacher and student response questionnaires to test the practicality of the numeracy literacy module.

The last stage of evaluation is the stage of perfecting the module, feedback and improvements to the module that has been tested in elementary schools. Suggestions and input from students became a reference in improving the prototype 3 module and producing a valid and practical numeracy literacy learning module product for grade VI.

The subjects of this study were 5 students of grade VI-A SDN Bulusidokare as small group test subjects, 16 students of grade VI-A SDN Bulusidokare as large group test subjects, and one of the teachers at the school. The selection of students as research subjects for the small group and large group trials was randomized. This research material is a numeracy literacy module for grade VI elementary school.

The use of instruments in collecting data in this study is in the form of material expert validation sheets, media expert validation sheets, teacher response questionnaires and student response questionnaires after using the module. The material expert validation sheet consists of aspects of material, use of relevant language, presentation, numeracy literacy concepts, and module effectiveness. The media expert validation sheet consists of aspects of layout, cover, typography, and images.

Module validity was measured through material expert validation sheet and media expert validation sheet. The practicality of the module was measured through teacher response questionnaire and student response questionnaire. Based on suggestions from validators, teachers and students, improvements were made to the module.

The validity analysis used a Guttman Scale with the answer "yes" given a score of 1 and the answer "no" given a score of 0. Then the score obtained, the percentage of the score was calculated using the formula in Equation 1 below:(1)

Where P is the percentage score result, S is the number of "yes" scores obtained, and M is the maximum score.

The results of the validity of the module in the form of a percentage score are then summarized based on the validity criteria according to Sugandi in Table 1. [23].

Table 1. Category of validity

Persentase Skor	Criteria Module
0%-20%	Not valid
21%-40%	Less valid
41%-60%	Fairly valid
61%-80%	Valid
81%- 100%	Very valid

The analysis to test practicality used a Guttman Scale with the answer "yes" given a score of 1 and the answer "no" given a score of 0. Then the score obtained, the percentage of the score was calculated using the following Equation 2:

$$P = \frac{S}{M} \times 100\% \quad (1)$$

Where P is the percentage score, S is the number of "yes" scores obtained, and M is the maximum score.

The practicality of the module in the form of a percentage score is then concluded based on the criteria for practicality according to Sugandi in Table 2 [23].

Table 2. Practicality category

Persentase Skor	Criteria Module
0%-20%	Not practical
21%-40%	Less practical
41%-60%	Practical enough
61%-80%	Practical
81%- 100%	Very practical

3 Results and Discussion

The results of the research on the development of numeracy literacy modules in the independent curriculum for grade VI elementary schools were carried out based on each ADDIE stage. The ADDIE stages that have been determined in the previous chapter are 1) Analysis, 2) Design (planning), 3) Development (development), 4) Implementation (implementation), and 5) Evaluation (evaluation).

3.1 Analysis

At the analysis stage, various analyses were carried out including curriculum analysis, analysis of student characteristics, analysis of learning needs, analysis of materials and concepts, and analysis of constraints. The method in obtaining information is by interviewing the teacher and two students of class VI-A SDN Bulusidokare. Teacher interviews were used to find out curriculum information and constraints. Interviews with students to find out information on student characteristics and student learning needs.

In the curriculum analysis, the curriculum used at SDN Bulusidokare is the 2013 curriculum and the independent curriculum. In the implementation of the module trial, the independent curriculum was used. In the independent curriculum there are learning competencies that students must achieve which are called learning outcomes. Learning outcomes at the grade VI elementary school level are classified as phase C. The math learning outcomes in phase C are contained in Figure 2.

Fase C Berdasarkan Elemen

Elemen	Capaian Pembelajaran
Bilangan	Pada akhir fase C, peserta didik dapat menunjukkan pemahaman dan intuisi bilangan (number sense) pada bilangan cacah sampai 1.000.000. Mereka dapat membaca, menulis, membandingkan, nilai tempat, membandingkan, mengurutkan, melakukan komposisi dan dekomposisi bilangan tersebut. Mereka juga dapat menyelesaikan masalah yang berkaitan dengan uang. Mereka dapat melakukan operasi penjumlahan, pengurangan, perkalian, dan pembagian bilangan cacah sampai 100.000. Mereka juga dapat menyelesaikan masalah yang berkaitan dengan KPK dan FPB. Peserta didik dapat membandingkan dan mengurutkan berbagai pecahan termasuk pecahan campuran, melakukan operasi penjumlahan dan pengurangan pecahan, serta melakukan operasi perkalian dan pembagian pecahan dengan bilangan asli. Mereka dapat mengubah pecahan menjadi desimal, serta membandingkan dan mengurutkan bilangan desimal (satu angka di belakang koma)
Aljabar	Pada akhir fase C, peserta didik dapat mengisi nilai yang belum diketahui dalam sebuah kalimat matematika yang berbasis dengan penjumlahan, pengurangan, perkalian, dan pembagian pada bilangan cacah sampai 1000 (contoh : 10 + ... = 900, dan 900 : ... = 10) Peserta didik dapat mengidentifikasi, menulis, dan mengembangkan pola bilangan nonlinear dan mengecek yang melibatkan perkalian dan pembagian. Mereka dapat berpikir secara proporsional untuk menyelesaikan masalah sehari-hari dengan rasio satuan. Mereka dapat menggunakan operasi perkalian dan pembagian dalam menyelesaikan masalah sehari-hari yang terkait dengan proporsi.
Pengukuran	Pada akhir fase C, peserta didik dapat menentukan keliling dua buah bangun datar (segitiga, segiempat, dan segibanyak) serta gabungannya. Mereka dapat menghitung durasi waktu dan mengubah lewat satuan.
Geometri	Pada akhir fase C, peserta didik dapat mengonstruksi dan mengurai bangun ruang (kubus, balok, dan gabungannya) dan mengenali visualisasi spasial (bagian depan, atas, dan samping). Mereka dapat membandingkan karakteristik antar bangun datar dan antar bangun ruang. Mereka dapat menentukan lokasi pada peta yang menggunakan sistem berpetak.
Analisa Data dan Peluang	Pada akhir fase C, peserta didik dapat mengurutkan, membandingkan, menyajikan, dan menganalisis data banyak benda dan data hasil pengukuran dalam bentuk gambar, piktogram, diagram batang, dan tabel frekuensi untuk menampilkan informasi. Mereka dapat menafsirkan hasilnya dengan kemungkinan yang lebih besar dalam suatu percobaan acak.

141

Fig. 2. Phase C math learning outcomes

Researchers analyzed the character of students in terms of how students can understand the language used in accordance with student development. Based on the results of interviews with 2 students from 21 students in class VI-A, that there are difficulties in understanding the language contained in the math learning book used. Students cannot learn independently with the math LKS (student worksheet) book. This is because the LKS used is less interesting.

In the learning needs analysis, students need teaching materials with easy-to-understand language. Students need supporting teaching materials to learn numeracy literacy. Students who

do not pay attention to the teacher while learning or students who are behind in learning materials at school need to learn independently. Based on interviews, students want modules that have lots of pictures, color and material with easy-to-understand language.

In the material and concept analysis, the learning outcome element used is the geometry element with learning outcomes: (1) learners can construct and decompose spatial figures (cubes, blocks, and their combinations) and recognize spatial visualization (front, top, and side), (2) they can compare characteristics between flat figures and between spatial figures, and (3) they can determine the location on a map that uses a plotted system. Based on these learning outcomes, the material in the numeracy literacy module contains these three learning outcomes.

In the analysis of constraints, some grade VI students of SDN Bulusidokare have difficulty in understanding the material in the textbook which uses language that is difficult to understand. Based on interviews with teachers, it was found that the Thematic teaching materials used contained repetitive material. Therefore, this module is made with language that is easy for students to understand, there are pictures to better understand the contents of the text, and the material is arranged sequentially.

3.2 Design

In the design stage, the prototype 1 module was made. The software used is Microsoft Office Word and Canva application. This module was developed in printed form in A4 paper size. The typeface used is dominated by Calibri letters. The module components consist of: a) cover, b) preface, c) table of contents, d) instructions for using the module, e) learning outcomes, f) sections 1-6 (each section has learning objectives, material, sample questions, and practice questions), g) summary, h) evaluation, i) answer key, j) glossary, k) bibliography, and l) sheets for cutting. The five sections are, 1) distinguishing flat and spatial shapes, 2) arranging unit cubes, 3) cubes, 4) blocks, 5) combined spatial shapes, and 6) location on a plotting system. Prototype 1 module was developed from a pre-existing module with the title "Learning Module for Literacy and Numeracy at Elementary School Level, 6th Grade Student Learning Module Theme 4 Communication Media Subtheme 3 Communication Media". The following is the appearance of the literacy and numeracy learning module at the elementary school level in Figure 3 that will be developed.

Fig. 3. Display of the primary school level literacy and numeracy learning module

In Figure 3, it shows the appearance of the cover, table of contents, content of the module on the learning module of literacy and numeracy at the elementary school level published by the Ministry of Education and Culture. As for what will be developed in this module, first, the cover display with the words "Learning Module for Literacy and Numeracy at Elementary School Level, 6th Grade Student Learning Module Theme 4 Communication Media Subtheme 3 Communication Media" is a module used for thematic learning using the 2013 curriculum. Second, in the table of contents section of the module, there are literacy activities on days 1 to 5, numeracy activities on days 1 to 5, and literacy and numeracy activities on day 6. Third, in the content section of the module, there are separate literacy activities and numeracy activities. Fourth, this module has a non-math problem in the literacy activity section that discusses warning signs. Based on this description, the researchers made changes to the module and designed it as a prototype 1 module. The changes in the module developed into prototype 1 module can be seen in Figure 4.

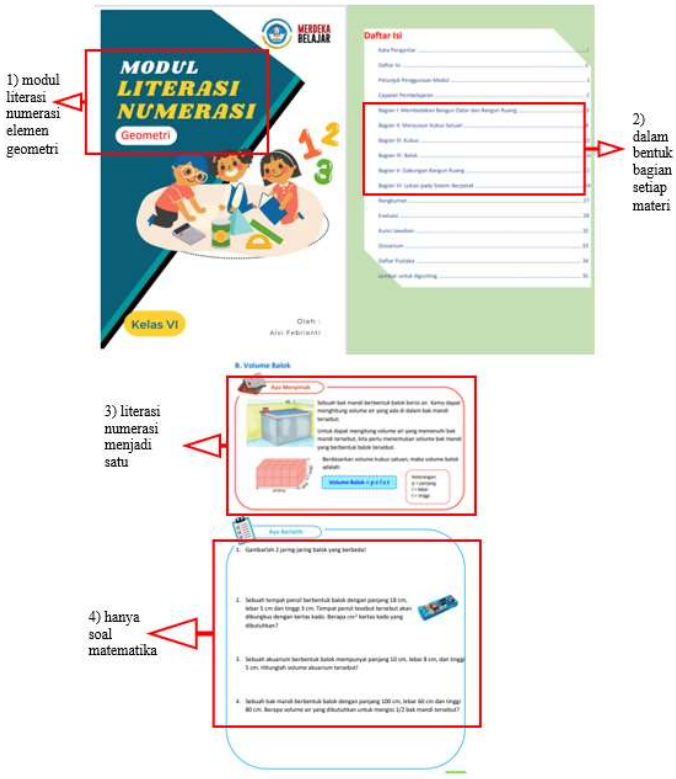

Fig. 4. Module view of prototype 1

In Figure 4, it shows the appearance of the cover, table of contents, and the contents of the prototype 1 module. The design of the prototype 1 module from the module published by the Ministry of Education and Culture is first, the cover of the module writes numeracy literacy with geometry elements. Geometry elements are one of the elements contained in phase c math learning outcomes, so this module is made in independent curriculum learning. Second, the table of contents is made with the type of material that matches the content of the module. Third, the concept of numeracy literacy in this module is made into one at once. Fourth, this module focuses only on mathematics, in other words, this module does not include other subjects.

3.3 Development

In the development phase, the prototype 1 module was validated by experts to determine the validity of the numeracy literacy module. Module validation is divided into two, namely material expert module validation and media expert module validation. Material expert validation was conducted by two science education lecturers. The results of the validation of prototype 1 module by material experts are presented in Table 3.

Table 3. Material expert validation results

No.	Aspect	Answer Yes		No Answer	
		Validator 1	Validator 2	Validator 1	Validator 2
1.	Material	3	3	-	-
2.	Use of relevant language	9	6	-	3
3.	Presentation	8	8	-	-
4.	The concept of numeracy literacy	3	3	-	-
5.	Media effectiveness	3	2	-	1
	Total	26	22	-	4
	Score Acquisition Yes (S)	48			
	Maximum Score (M)	52			
	Percentage of Validity (P)	92,3%			

The table shows the acquisition of yes and no answers to each aspect tested on two material experts. Based on the diagram, the total number of yes answers was 48, and the maximum score was 52. The score was then calculated using Equation 2 and obtained a percentage of 92.3%. Based on Table 2 of the validity category, it is included in the very valid criteria. The input given by the first validator of the material expert includes: 1) provide an answer key for the "let's calculate" section of the module, and 2) tidy up the bibliography. The advice from the second validator of the material expert is to revise the answers not in the validation sheet.

Based on the suggestions and input from the material experts, the researchers followed up in improving the module including: 1) adding an answer key for the "let's calculate" section which can be seen in Figure 5, 2) tidying up the bibliography which can be seen in Figure 6, 3) adding compound words which can be seen in Figure 7, and 4) adding explanations to difficult words which can be seen in Figure 8.

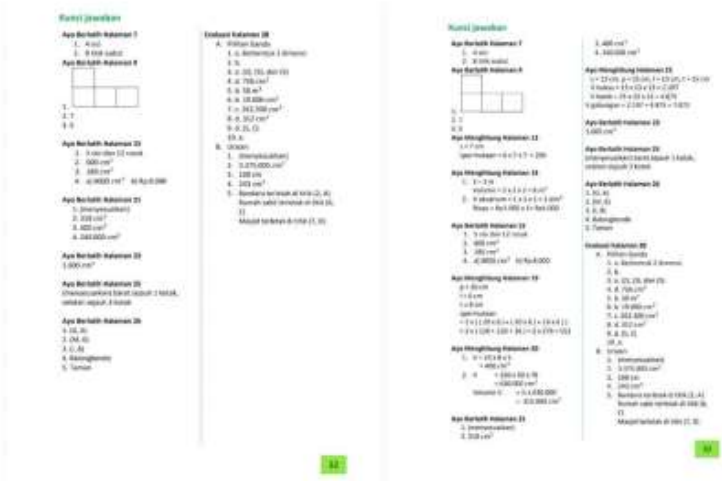

Fig. 5. Revisions to the answer key section before (left) and after (right)

In Figure 5, the answer key before the revision is only for the let's practice and evaluation sections. In the post-revision section, the researcher has added an answer key for the let's calculate section. Thus, students can know whether their answers are correct or incorrect when working on the let's calculate section.


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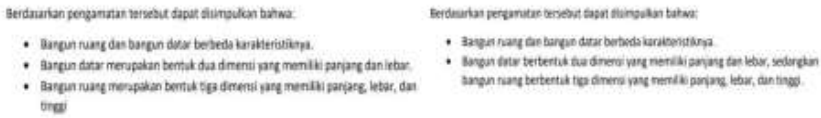
https://ckakmath.com/materi-kubus-dan-balok-kelas-6-sd/

Fig. 6. Revised bibliography section before (left) and after (right)

In Figure 6, the bibliography section before revision is still in the wrong writing. The validator suggested that improvements be made to the section. Thus, revisions were made to the section of each reference so that it protrudes in accordance with the provisions for writing a bibliography.


Berdasarkan pengamatan tersebut dapat disimpulkan bahwa:

- Bangun ruang dan bangun datar berbeda karakteristiknya.
- Bangun datar merupakan bentuk dua dimensi yang memiliki panjang dan lebar.
- Bangun ruang merupakan bentuk tiga dimensi yang memiliki panjang, lebar, dan tinggi

Berdasarkan pengamatan tersebut dapat disimpulkan bahwa:

- Bangun ruang dan bangun datar berbeda karakteristiknya.
- Bangun datar berbentuk dua dimensi yang memiliki panjang dan lebar, sedangkan bangun ruang berbentuk tiga dimensi yang memiliki panjang, lebar, dan tinggi.

Fig. 7. Before (left) and after (right) revision

In Figure 7, the section before the revision has no compound sentences. In the section after the revision, the researcher combines two sentences into one sentence with the conjunction whereas. The combination of two equal sentences by adding the conjunction "whereas" is included in the equivalent compound sentence.

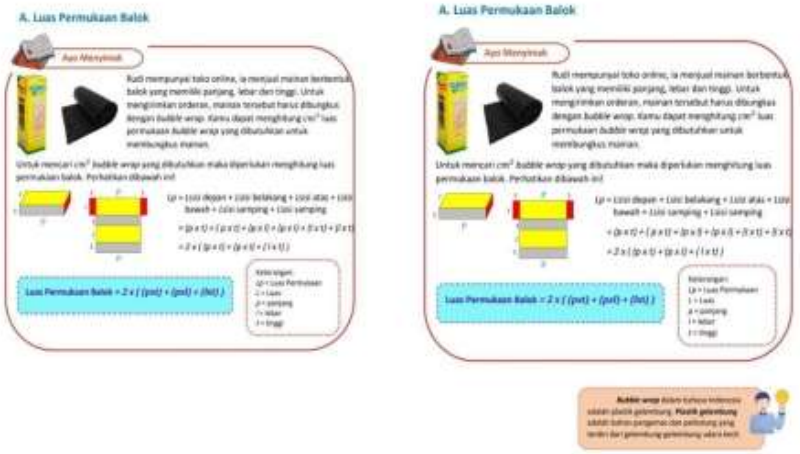


Fig. 8. Before (left) and after (right) revision

In Figure 8, before the revision, there is a difficult word "bubble wrap" and there is no explanation of the difficult word. Difficult words contained in the material must be given an explanation or description. Thus, in the section after revision, there is an explanation of the difficult word "bubble wrap" in the material.

Furthermore, the media expert validation assessment was carried out by two experts, namely a lecturer in Information Technology Education who mastered the field of learning media design and a lecturer in Science Education. The results of module validation data from media experts are shown in Table 4.

Table 4. Media validation results

No.	Aspect	Answer Yes		No Answer	
		Validator 1	Validator 2	Validator 1	Validator 2
1.	Layout	5	5	-	-
2.	Cover	4	4	-	-
3.	Typography	5	3	-	2
4.	Image	4	3	-	1
Total		18	15	-	3
Score Acquisition Yes (S)		33			
Maximum Score (M)		36			
Percentage of Validity (P)		91,67%			

In the diagram of the results of the media expert validation assessment above, each aspect assessed is the aspect of layout, cover, typography and images. Based on the percentage validity formula in equation 2, the percentage result obtained is 91.67% and is categorized as very valid. However, there are inputs and suggestions from media expert validators, which include: 1) there must be a similarity between the color of the cover and the color of the title and page, 2) in the

instructions for using the module must be designed in full color so that module users do not miss that part, 3) the color of the writing must be made refreshing to the eyes, it is advisable to avoid colors that make the eyes tired or sleepy, 4) the use of various colors in the writing in the summary section should have clarity. The suggestions from the second validator are to improve the module on the answers not in the validation sheet.

Based on suggestions from media experts, the researchers did not continue to improve the module including: 1) equalizing the cover color with the title and page colors which can be seen in Figure 9, 2) designing full color in the instructions for using the module which can be seen in Figure 10, 3) changing the yellow color to purple in the let's calculate section which can be seen in Figure 11, 4) changing the design of the summary section which can be seen in Figure 12, 5) equalizing the font variations in the formulas to be consistent can be seen in Figure 13, and 6) replacing the image according to the original form found in Figure 14.

Fig. 9. Revisions to the cover before (left) and after (right)

In Figure 9 before revision, the module cover color is dominated by blue. The blue color does not match the content of the module which is dominated by green. In the section after revision, there is a change in the color of the module cover with the addition of green, so that it matches the contents of the module.

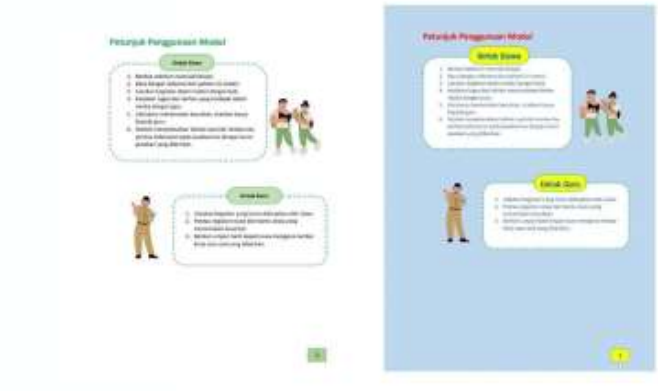


Fig. 10. Revision of the instructions section of the module before (left) and after (right)

In Figure 10, the section before revision, the instructions for using the module seems less attractive. An unattractive appearance will make students skip the page. Thus, in the section after the revision, the researcher changed the appearance with full color to make it interesting to read. According to Trinugroho, a book that makes children interested is because it presents a colorful picture. [24].

Fig. 11. Revision of the let's count section before (left) and after (right)

In Figure 11, the color of the let's count exercise is yellow. After the revision, the color on the let's count is changed to purplish red. The color change was made because the yellow color makes the reader sleepy, so the purplish red color is applied so that the reader does not feel sleepy. Color selection is based on color levels, namely warm colors and cool colors. Warm colors give a calm impression, such as orange, red and yellow. Cool colors give a comfortable impression, such as green, purple and blue. Thus, the colors that are suitable for use in writing are cool colors.

Fig. 12. Revised summary section before (left) and after (right)

In Figure 12, the summary section before the revision shows that some words are colored. In the section after revision, each color is differentiated according to the module section. Thus, there is clarity of color so that it is easy for readers to understand.

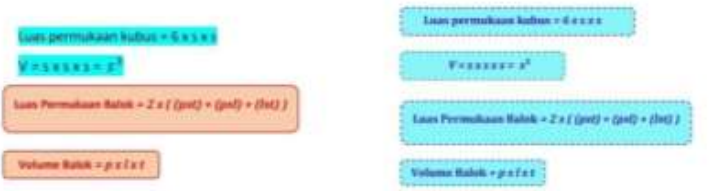


Fig. 13. Revision of the font variation part of the formula before (left) and after (right)

In Figure 13 before the revision, the use of letter variations in each formula is inconsistent. In the section after the revision, the use of bold and italics is equalized for each formula in the module. Each formula in the module uses italic variations.

Fig. 14. Before (left) and after (right) revision

In Figure 14 before revision, there is a picture that does not match the original. In the section after the revision, the picture is replaced with a real picture in accordance with the original. Thus, students will be able to understand the material through real pictures.

After making improvements to the prototype 1 module, the module is suitable for testing in elementary schools. The improved prototype 1 module became prototype 2 module.

The prototype 2 module was tested on several elementary school students. This stage is called a small group trial, the subjects in this trial were 5 students and a teacher of class VI-A SDN Bulusidokare. In the implementation of the trial, the researcher directed the use of the module to students. Students independently used the module. Researchers and teachers monitored and helped students who had difficulties. After students and teachers tried the module, then a student response questionnaire and a teacher response questionnaire were given. Student response questionnaires in small and large group trials and teacher responses determine the practicality of this numeracy literacy module. The following are the results of the 5 student response questionnaires on the small group trial presented in Table 5.

Table 5. Results of 5 students' response questionnaires in the small group trial

Statement Item	Answer Yes	No Answer
Number 1	5	-
Number 2	5	-
Number 3	4	1
Number 4	5	-
Number 5	5	-
Number 6	5	-
Number 7	5	-
Number 8	5	-
Number 9	5	-
Number 10	5	-
Total	49	1
Acquisition of Yes (S) Answers	49	
Maximum Score (M)	50	
Percentage Result (P)	98%	

Table 5 shows the results of the student response questionnaire in the small trial with the frequency of "yes" and "no" answers to each statement number in the student response questionnaire. Based on the diagram in the figure, there are 49 yes answers and 1 no answer on the response results of 5 students. The maximum number of yes answers in Figure 16 is 50. Then by using Equation 2, the average percentage of students who answered yes was 98%. Based on the practicality category in Table 2, the 98% figure is categorized as very practical. The following are the results of a teacher's response questionnaire in the small group trial of the module presented in Table 6.

Table 6. The results of the teacher response questionnaire in the small group trial

No.	Aspect	Number of answers		Percentage (%)	
		Yes	No	Yes	No
1.	Material	3	0	100	0

2.	Language	3	0	100	0
3.	Presentation	3	0	100	0
4.	Numeracy Literacy Concept	3	0	100	0
5.	Module Practicality	4	0	100	0
6.	Display	2	0	100	0
7.	Usability	2	0	100	0
	Average			100	
	Category			Very Practical	

The table shows the number of yes and no answers to each aspect in the teacher response questionnaire. The percentage of the results of the teacher response questionnaire using the Equation 2 formula, obtained a result of 100%. The results of this percentage are then concluded to be included in the very practical criteria.

At the small group trial stage, there was input from the VI-A class teacher, namely in the example or exercise section using regional names that are close to students and known by students. Thus, the researcher revised the prototype 2 module into a prototype 3 module. The parts before and after revision are presented in Figure 15.

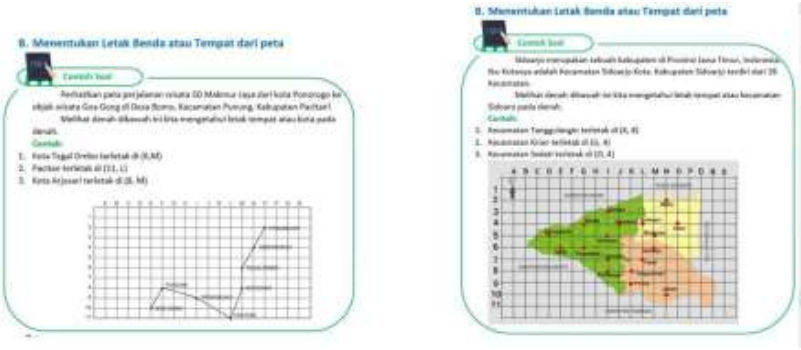


Fig. 15. Revision before (left) and after (right)

In Figure 15, the module before the revision used the names of regions outside Sidoarjo district. Based on suggestions from the VI-A class teacher, researchers made improvements by changing the image to a map of sub-districts in Sidoarjo. Sidoarjo district was chosen because the students live in Sidoarjo.

3.4 Implementation

In the implementation stage, a large group trial was conducted. The prototype 3 module was tested on 16 students of class VI-A SDN Bulusidokare. When tested on students, researchers explained the use of the module and helped students who had difficulties. The

researcher tested the module on the material of blocks, combined spaces and locations on the printed system to students. The students read and worked on the module content independently.

After students used the module, researchers distributed student response questionnaires to the module. The response questionnaire was distributed to determine the practicality of the module. The following results of the response questionnaire of 16 students in the large group trial are presented through a diagram in Table 7.

Table 7. Results of 16 students' response questionnaires in the large group trial

Statement Item	Answer Yes	No Answer
Number 1	16	-
Number 2	16	-
Number 3	15	1
Number 4	16	-
Number 5	16	-
Number 6	16	-
Number 7	16	-
Number 8	16	-
Number 9	15	1
Number 10	16	-
Total	158	2
Acquisition of Yes (S) Answers	158	
Maximum Score (M)	160	
Percentage Result (P)	98,75%	

Table 7 shows the results of the student response questionnaire with "yes" and "no" answers to each statement number in the student response questionnaire. Based on the diagram, it is found that there are 158 yes answers and 2 no answers in the response results of 16 students. The maximum number of yes answers in Figure 8 is 160. Then by using Equation 2, the average of 16 students answering yes is 98.75%. The percentage results are then categorized through Table 2 practicality categories. Based on the practicality categories in Table 2, the module in the large group trial stage is categorized as very practical.

3.5 Evaluation

At the evaluation stage, the module was improved based on the student response questionnaire and the shortcomings of the prototype 3 module at the implementation stage. One of the comments in the student response questionnaire was the difficulty in making blocks. Based on this comment, the researcher revised the sheet to be cut out can be seen in Figure 16.

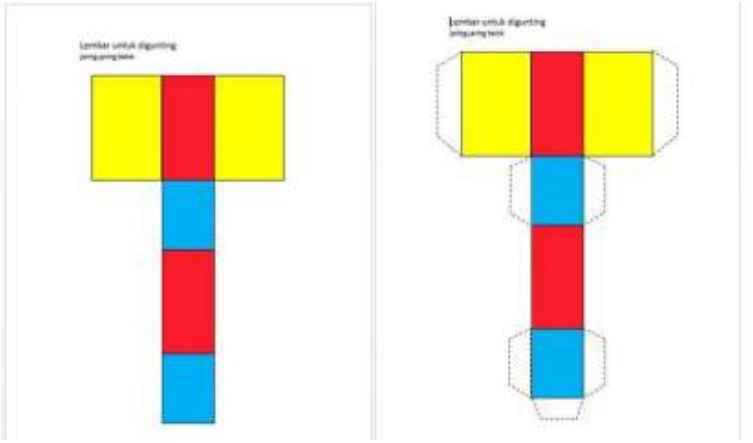


Fig. 16. Revised parts of the sheet to be cut out before (left) and after (right).

In Figure 16, the part of the nets to be cut out, it can be seen that the edges of the nets have no space to stick. This makes it difficult for students to form spaces. Thus, the researcher made improvements by adding edges to the nets to make it easier for students to form spaces.

The revised prototype 3 module then becomes a valid and practical numeracy literacy module on the independent curriculum for grade VI elementary schools. This valid and practical module can be used for learning grade VI elementary school mathematics in the Merdeka curriculum.

4 Conclusions

Based on the development of numeracy literacy modules for grade VI elementary schools, the validation of the module is very valid with a percentage of material expert validity of 92.3% and a percentage of media experts of 91.67%. Furthermore, the results of practicality trials in small groups received a very practical category of 98% (5 students' responses) and 100% (teacher responses). The response of 16 students in the large group trial received very practical criteria with a value of 98.75%. Based on this, it is said that the practicality of the numeracy literacy module for grade VI SD is classified as very practical. This numeracy literacy module is very valid and practical, so it is feasible for students to use to be able to learn independently. The numeracy literacy module in the independent curriculum for grade VI elementary school only presents geometry material, so it is recommended that this module be developed again in a wide range of material. The numeracy literacy module in the independent curriculum for grade VI elementary schools is expected to be used in schools with the same characteristics as the schools used in this study.

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